Assignment - 4

1. If $A = \begin{bmatrix} 0 & 4 & 3 \\ 1 & -3 & -3 \\ -1 & 4 & 4 \end{bmatrix}$, find A^2.

2. If $A = \begin{bmatrix} 2 & -1 & 3 \\ 3 & 6 & 8 \\ 5 & 0 & 9 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 4 & 9 \\ -3 & 0 & 2 \\ 7 & 6 & 5 \end{bmatrix}$

   then find (a) $A^T + B^T$
   (b) $(BA)^T$

3. Find Inverse of the matrix,

   $$A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & -8 \\ 6 & -3 & 0 \end{bmatrix}$$

4. Solve the following Equations by Cramer's Rule :

   (a) $x + 2y + 3z - 14 = 0$
   $2x + y + z - 7 = 0$
   $5x + 2y + z - 12 = 0$

   (b) $x + 6y = 2xy$
   $3x + 2y = 2xy$

5. Evaluate : $\begin{vmatrix} -6 & 2 \\ -3 & -4 \end{vmatrix}$

6. If $A = \begin{bmatrix} 1 & 2 \\ 3 & -4 \end{bmatrix}$, find adj. A.

7. If $A = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 5 & 1 \\ 0 & 3 \end{bmatrix}$, find BA.

(8) find $\begin{vmatrix} a+b & a-b \\ a-b & a+b \end{vmatrix}$

(9) If $\begin{vmatrix} 11 & 40 & 28 \\ 3 & 12 & 8 \\ x & 2 & 2 \end{vmatrix} = 0$ then find the value of x.

(10) find the minor of (−3) of

$$\begin{vmatrix} 1 & 2 & 3 \\ 2 & 4 & -8 \\ 6 & -3 & 0 \end{vmatrix}$$